

WHAT IS CLAIMED IS:

1. A patch antenna including a dielectric substrate, a ground conductor formed on one main surface of the dielectric substrate, and a patch conductor formed on another main surface of said dielectric substrate, wherein

5 radiation efficiency is changed in a direction of wavelength-dependent length of said patch conductor.

2. A patch antenna according to claim 1, wherein a spacing between said patch conductor and said ground conductor is made nonuniform in said direction of wavelength-dependent length.

10 3. A patch antenna according to claim 2, wherein thickness of said dielectric substrate is changed in said direction of wavelength-dependent length.

4. A patch antenna according to claim 1, wherein a dielectric constant is changed in said direction of wavelength-dependent length.

15 5. A patch antenna according to any one of claims 1 to 4, wherein a dielectric is loaded on said patch conductor.

6. A cellular telephone with a patch antenna built-in according to any one of claims 1 to 5, wherein

 said cellular telephone includes a housing, and said patch antenna is arranged in such a manner that said direction of wavelength-dependent length matches the direction
20 of thickness of said housing, and that a side thereof with higher radiation efficiency is faced opposite to a side of said housing making contact with head of a person.